W1002 | W2002

The W1002 and W2002 access points are manufactured environment friendly and are compliant to the RoHS directive. They support the latest WLAN technology and have been designed for use in professional environments in particular.

Depending on the model, the access points are equipped with one or two radio modules and two or four antennas for antenna diversity for optimized coverage under heavy conditions, thus allowing them to meet a wide variety of requirements.

When using data of different applications it´s important to priorize some of them. The Wx002 series supports WMM (Wireless Multimedia), a technique to priorize certain data of applications like video or voice in order to provide maximum of transmission quality for time critical applications.

In addition to the WLAN standards 802.11b and 802.11g, these devices also support 802.11a as well as its European counterpart, the 802.11h, to enable a data throughput rate of up to 54 Mbps in the 5 GHz frequency range as well. This is particularly advisable for building bridge solutions in outdoor areas.

Furthermore, these products also support such modem processes as Multi SSID and VLAN, with which up to 16 virtual access points can be mapped per radio module. These access points can be secured one against the other, thus allowing guest access for customers, for example. Different security levels and encryption processes can be assigned to each SSID.

To ensure highest security, the devices support the 802.1x and 802.11i (WPA2) security standards. The systems can be reliably configured using SSH, SSL or alternatively via https (in preparation) as well. When used as bridges, the devices support the automatic bridge mode and are able to secure bridge connections with the help of TKIP and AES encryption.

As a result of the increasing number of applications using such wireless transmission technologies as DECT, GSM, UMTS or wireless LAN, users have become more sensitive to the topic of possible health hazards or negative effects on other applications. Different to mobile communications, however, there is considerably less energy radiated by WLAN and any radiation values are far below the legally regulated limits. In addition, the distance between the user and the transmission antenna is usually much greater than for a mobile telephone, for example.

In the medical sector, the requirements for electromagnetic compatibility (EMC) are much stricter than in the home or industrial environment; in this field, it is particularly important that technical devices do not interfere with or negatively affect each other. These requirements are described in the EN60601 standard.

The W1002 and W2002 products fully comply with the EN 60601-1-2 (Medical electrical equipment - Part 1-2: General requirements for safety - Collateral standard: Electromagnetic compatibility - Requirements and tests) and EN 60950 (Information technology equipment - Safety - Part 1: General requirements). This means that they have been approved for use in medical environments.
You can download the corresponding certificate in the download section, WLAN Products - Conformity

Declarations.

Versions

Feature	Description
W2002	Two internal radio modules, 4 external antennas, Article Nr: 540 109 27 82
W1002	One internal radio module, 2 external antennas, Article Nr: 540 109 27 40
W2002-UK	Two internal radio modules, 4 external antennas, UK-variant. Article Nr: 540 109 30 29
W1002-UK	One internal radio module, 2 external antennas, UK-variant. Article Nr: 540 109 30 11

Wireless LAN

Feature	Description
WEP/WPA	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
IEEE802.11i Authentication and Encryption	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, Key Management, PSK/TKIP Encryption, AES Encryption, 802.1x/EAP
Automatic Rate Selection (ARS)	available
Transmit speed	Transmit Speed Auto fallback or selectable fixed rate
Fixed bitrate	A fixed value for TX rate can be set
Data rates	IEEE802.11 Standards: a,h (5GHz) g,b (2,4 GHz) modulation scemes: 11, 5.5, 2 and 1Mbps (DSSS) 2.4GHz; 54, 48, 36, 24, 18, 12, 9 and 6Mbps (OFDM), 2,4 and 5 GHz
Output power	Adjustable from 0dBm up to max. 14dBm / 19 dBm. Max. power varies on data rate and frequency band.
Channel sets	according to IEEE 802.11d
Delay Spread @ 2.4GHz	PER 8% : 1Mbps 250ns; 2Mbps 250ns; 5.5Mbps 100ns; 11Mbps 100ns. PER 10%: 6Mbps 1000ns; 9Mbps 540ns; 12Mbps 680ns; 18Mbps 420ns; 24Mbps 320ns; 36Mbps 210ns; 48Mbps 160ns; 54Mbps 120n
Delay Spread @ 5GHz	PER 10%: 6Mbps 1000ns; 9Mbps 540ns; 12Mbps 680ns; 18Mbps 420ns; 24Mbps 320ns; 36Mbps 210ns; 48Mbps; 160ns; 54Mbps 120ns
Receiver Sensitivity @ 2.4GHz	PER 8%: 1Mbps -98dBm; 2Mbps -93dBm; 5.5Mbps -92dBm; 11Mbps -88dBm; PER 10%: 6Mbps -92dBm; 9Mbps -90dBm; 12Mbps -88dBm; 18Mbps -86dBm; 24Mbps -82dBm; 36Mbps -78dBm; 48Mbps -73dBm; 54Mbps -71dBm
Receiver Sensitivity @ 5GHz	PER 10%: 6Mbps -90dBm; 9Mbps -88dBm; 12Mbps -86dBm; 18Mbps -84dBm; 24Mbps -79dBm; 36Mbps -76dBm; 48Mbps -71dBm; 54Mbps -69dBm
Antenna diversity	Can be switched on and off
Roaming	Artem roaming protocol.
Learn Table	High performance cache for 4099 MAC-Adresses.
WLAN Modes	IEEE 802.11 Compatibility Mode: 11a Only, 11b Only, 11g Only, Mixed, Mixed-Long Range, Mixed-Short Range
Nitro Mode	Can be switched on / off and is configurable
Repeating	Repeating can be switched on / off
Radio quality Information	Signal, noise and data rate per client
Clients table	Table of associated clients (nodes)
Broadcast	Can be switched on / off
Multi SSID	Up to 16 service sets per radio in AP mode, wirtual AccessPoints with own MAC address per radio.
Country Specific settings	Operating Channels According to the regulatory domain possible.
TPC	TPC (Transmission Power Control): At 5 GHz, automatic power reduction according to EN301893
DFS	DFS (Dynamic Frequency Selection): At 2,4 and 5GHz, channels are used dynamically depending on occupation.
RTS/CTS	RTS/CTS threshold adjustable.
DTIM	DTIM period adjustable.

Security

Feature	Description
RADIUS	Central check of access authorization at a RADIUS server (.1x Authentication)
VLAN	Network segmentation on layer 2 possible, one VLAN ID per SSID. Static VLAN configuration according to IEEE 802.1q; Supports up to 32 VLANs.
PHS Filter	Inter traffic blocking for Public HotSpot (PHS) applications disables communication between wireless clients within a radio cell and cells of other Access Points.
Password Protection	Access control for two different user levels (admin, view).
Security Against Intruders	Telnet is protected against 'Brute Force Attacks'
Access Control List (ACL):	Via local list

Maintenance and Service

Feature	Description
Configuration via	Via DHCP, Telnet, SSH, HTTP, HTTPS, SNMP
SNMP	SNMP (v1, v2, v3), USM Model, VACM Views, SNMP Traps (v1, v2, v3) configurable, SNMP IP access list configurable
SNMP configuration	Complete management with MIB-II, MIB 802.11, Enterprise MIB
SSH Login	Supports SSH V1.5 and SSH V2.0. For secure connections of terminal applications
HTTP/HTTPS	Versions pre1.0, 1.0, 1.1
Setup Tool	Integrated, menu-based, intuitive setup program, Artem CPM
Documentation	Complete toolset and documentation on CD
Guarantee	2-year manufacturer's guarantee
Secure configuration	SSH supported, HTTPS in preparation
Configuration export	Loading And Saving Of Configurations
On The Fly Configuration	No restart is required after the configuration has been changed.
Configuration Access	Can be restricted to 'ethernet only' or additionally restrained by filter rules.
Discovery Function	Protocols: Madge Discovery Protocol (MDP), Artem Discovery Protocal (ADP), Works accross subnet borders.

Software Features

Feature	Description
Bridging	Transparent Mode
Ethernet Blue Book	Supported by all ComPoint Variations.
Buffer Pool	For compensation of load peaks
QoS	Data Priorisation for IP-TOS evaluation, 802.11e/WMM
BLD	Broken Link Detection (BLD) per SSID possible.
Statistics	Wireless Extended Statistics, Sorted by clients and by data rate.
Console Logging	Events via Telnet and HTTP visible
Syslog	Client, with different levels of messaging.
DHCP	Client
Power Management For Clients	Number of Managed Clients per Radio: Up to 250 at the same time.
ARP	Address Resolution Protocol: Translation for wireless clients enable/disable
IAPP	Roaming with Artem Inter-Access-Point-Protocol (IAPP)
WDS	Wireless Distribution System: Interoperabel with other devices from the Funkwerk-EC Portfolio
Bridge: Point-To-Point / Point-To-Multipoint	Point-To-Point Connection Between Two ComPoints; Point-To-Multipoint Connection Between one ComPoint and up to six partner ComPoints
Bridge	Full Remote Configuration: Proprietary Artem protocol with encrypted transmission. RTS/CTS Threshold: Adjustable; Operating Channels: According to the regulatory domain. Transmit Speed: Auto fallback or selectable fixed rate.
Linktest	Via the linktest the quality of a bridge link can be measured.
Bridgelink encryption	With high sequrity TKIP and AES possible

Hardware Features

Feature	Description
Standards	Wi-Fi Certification for IEEE 802.11g; IEEE 802.11a,b,g,d,h,i; IEEE 802.3, IEEE 802.3af, IEEE 802.1q (VLAN Tagging)
Certifications	R&TTE Directive 1999/5/EG; EN 60950 (IEC60950); EN 300 328-1/2; ETSI EN 301 489-1/17, EN60601-1-2 (medical)
LAN / WAN	2 x 10/100 Mbps Ethernet twisted pair, autosensing, auto MDI/MDI-X
WLAN	W1002/W2002: IEEE 802.11b/g 1 or 2 internal radio modules, 2,4 und 5GHz Band, 2 or 4 external antennas (Antenna Diversity), max. 100mW RF output power
Antenna	Antenna connector: RTNC jack
Real time clock	Even at power loss the system time will be available for several hours.
Power supply	External AC/DC converter 12 V DC, 1 A
PoE	Power-Over-Ethernet compliant to IEEE 802.3af, the injector must support maximum power (class 0)
Status LEDs	W1002: Status+Activity for WLAN, Ethernet 1, Ethernet 2; W2002: Status+Activity for WLAN 1, WLAN 2, Ethernet 1, Ethernet 2
Wall mounting kit	Optional
Dimensions	Approx. 16.3 cm by 16.8 cm by 5 cm (w by h by d)
Weight	Approx. 200 g
Power consumption	Max. 1A at 12V
Environment	Temperature range: Operational 0°C to 40°C; Storage -10°C to 70°C; Max. rel. humidity 10 - 95% (non condensing)